

## PRODUCT DESIGN THINKING FOR TRANSMITTING INTANGIBLE CULTURE: A CASE STUDY OF A HAN FOLKTALE

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**Abstract.** The objective of this study was to investigate feasible means of transmitting intangible culture via design. Han folktales are culturally rich oral stories. As stories can create engaging experiences and fascinating products, we converted a Han folktale into an experience and then designed a product using experiential planning. We employed Vladimir Propp's storytelling morphology to extract the experiential elements of the story from an emic perspective and subsequently organised them into a logical framework. This study provides designers with guidelines on how to apply this framework to create a user experience of the journeys of characters in a folktale and then ideate suitable products through the process of story visualisation. Simple tests and comparisons demonstrated that the design methods and processes proposed in this study can assist designers in conveying the core values of folktales and create for users holistic cultural experiences of Han folktales.

**Keywords:** cultural products, design methodology, storytelling, intangible culture, cultural experience.

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### 1. Introduction

The use of design to merge tradition and innovation has become a trend (Lin, 2007). Tradition is the foundation of innovation and can therefore increase product value whereas innovation is the vitality of tradition and can promote its renewal (Lin et al., 2007). Tradition and innovation complementing each other is the ideal of cultural product design; however, the means of striking a balance between the two has always been challenging. Most existing cultural products nowadays simply apply cultural shapes or decorative patterns and focus on tangible cultural characteristics yet unfortunately ignore intangible cultural connotations (Hsu & Lin, 2011), causing some people to brand such culture commodification as superficial (Lee, 2004). Finding the means of making design beneficial rather than harmful to the passing down of cultures is an unavoidable issue for cultural product designers. Although the preservation and maintenance of intangible culture are more difficult than that of tangible culture, the elements of intangible culture bring consumers of cultural products greater satisfaction (Chai *et al.*, 2015). To overcome the inadequacies of existing design approaches for cultural products, we must explore the

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means of expressing intangible culture through design as well as aid in the continuation and promotion of intangible culture.

Intangible culture, also known as non-material culture, is the abstract ideas, knowledge, skills, beliefs and values that are passed down from generation to generation in a community, often through oral storytelling (UNESCO, 2003). Tales circulated by word of mouth among common folk are oral traditions of using language as a vehicle of intangible culture. That is to say, folktales are oral stories rich in intangible culture, and also intangible culture passed down in the form of stories, which play a crucial part in constructing and continuing the identity of a community and keeping cultures alive. In addition, stories can be used to convey ideas, enhance experiences and explore design concepts (Quesenberry & Brooks, 2010) and are also a selling point that can move people's hearts (Pulizzi, 2012). Rich cultural connotations of folktales that are communicated through design can create a product enriched with cultural charm and be conducive to the revitalisation and rebirth of traditional culture. In view of this, we therefore explored the means of conveying the intangible culture within folktales to product users via the process of an experimental design case using a Han folktale as an example, thereby providing experience and knowledge on the use of design to convert oral traditions. The study itself is a process of exploration, analysis, practice, validation and reflection. In the exploratory phase, we attempted to analyse the purposes, expressions, elements, and structure of Han folktales, as well as the design methods related to the stories, by combing through the literature to formulate design strategies for conveying the intangible culture inherent in folktales. Then, by analysing the story content and experience factors of Selling Fragrant Farts retold orally by four pairs of Han Chinese parents and children, a folktale experience framework of Selling Fragrant Farts was constructed as a conversion template for designers to translate this folktale. In the practice stage, two postgraduates majoring in product design were asked to design cultural products and propose design sketches using the design approach and folktale experience framework proposed in this study. Afterwards, expert evaluation was used to test whether the sketches using the design approach proposed in this paper could successfully convey the cultural meaning of Selling Fragrant Farts. Finally, the results of the design implementation and testing were reviewed and reflected upon to propose experiential knowledge on the use of design to convey intangible culture.

## **2. Exploration of design approach to translating Han folktales into products**

### ***2.1. Understanding Han folktales***

#### ***2.1.1. Purposes and expressions of folktales***

Han folktales were fictional prose and narratives that were created and passed down to inspire young children while teaching them ethics as well as social and cultural values (Chang, 2000). The folktales often had lively and interesting plots to disguise the edifying theme, thereby offering educational entertainment. Characters in the stories fell into several categories and mostly served as symbolic metaphors or examples. The personalities, actions and endings of the protagonists often sharply contrasted with those of the antagonists to emphasise the moral theme being conveyed. In addition, the time and place of the stories were often vague with no clear descriptions (Zhong, 2010), which highlights that the theme was not only the cultural messages that the author of the folktale wanted to convey to audiences but also the main purpose for which the folktale was created. Elements such as the setting, plot and resolution of the folktale also start from

the theme (Thorndyke, 1977). To interpret the intangible culture within a folktale using a product, a correct understanding of the theme and of how the story elements showcase the theme is extremely important.

### *2.1.2. Elements and structure of folktales*

To achieve the objective of narration, the various elements of a story must be grammatically organised into a logical structure. Structure is the basic framework of a story, presenting the order and method in which all of the story elements are connected into a whole. Looking at stories from the structure, Chatman (1980) held that the contents of stories included two major parts: events and existents. Events are the dynamic processes of actions and happenings, which drive the entire story, whereas existents describe the static conditions of characters and settings, which are the conditions of existence within the story.

Both Tomashevsky (1965) and Propp (2010) pointed out that actions are fundamental elements in a story. The basic framework of a story is constructed by connecting one active event after another. Tomashevsky referred to the smallest unit in a narrative as a 'motif' and indicated that 'bound motifs', which describe dynamic actions and causal relationships, are the essential core of a story; the omission of any bound motif would break the stream of logic of the narration. 'Free motifs', which describe the static attributes of characters and scenes, are the stylistic periphery and can be freely replaced or omitted without affecting the narrative coherence. Propp identified 31 functions from 100 Russian folktales and divided them into 7 spheres of action corresponding to the character performing them. 'Function is understood as an act of a character, defined from the point of view of its significance for the course of the action' (Propp, 2010, p. 21). Propp held that the motifs constituting a story plot are only one type of 'variable' that appears in different forms in different stories; only functions are the constant shared by different stories. What the characters do matters, not who does it or how it is done. Following Propp's analysis approach, Guo (2010) identified 18 functions and 5-character spheres of action from 34 Taiwanese folktales and indicated that unlike Russian folktales, where the hero has adventures and battles the opponent, Taiwanese folktales often involve an impartial third party that rewards the good and punishes the bad to edify the audience; he therefore modified the functions and the spheres of action distributed to the characters (Figure 1). The combination of a series of constant functions forms the basic framework of story development and is where the commonality of folktales lies. The attributes and characters of existents can be freely replaced and form the creative variables of each folktale's uniqueness. Clarifying the constants and variables of a folktale can help designers to transfer the folktale to product usage context and to create cultural experiences of the folktale for users.

### ***2.2. Approaches to applying stories to cultural product design***

The achievements of studies on the design of cultural products demonstrate how to use the design association methods to present the characteristics of an existing story. Stories with historical cultural characteristics such as myths, legends and novels are all design materials and sources of inspiration for cultural product development. The means of extracting the most characteristic elements from the stories and converting them into products that resonate with the audience are the focus of relevant research.

Propp's character archetypes	Guo's character archetypes	Spheres of action
<b>Hero</b>	<b>Well-doer</b>	<ul style="list-style-type: none"> <li>• Suffers from the action of the villain or senses some kind of lack</li> <li>• [Reacts to the dispatcher] or the donor</li> <li>• Departs on a search</li> <li>• Defeats the villain/wrong-doer</li> <li>• Tries to solve something</li> <li>• Resolves any lack or wrongs</li> <li>• Marries the princess or receives a reward</li> </ul>
<b>Villain</b>	<b>Wrong-doer</b>	<ul style="list-style-type: none"> <li>• [Struggles with the hero]</li> <li>• Does bad things</li> </ul>
<b>Donor/Provider</b>	<b>Donor</b>	<ul style="list-style-type: none"> <li>• Gives the hero/well-doer advice or a useful object</li> </ul>
<b>Helper</b>	<b>Helper</b>	<ul style="list-style-type: none"> <li>• Helps the hero/well-doer get out of trouble and generally has magical powers</li> </ul>
<b>Princess (a sought-for person) and her father</b>	<b>Princess/King</b>	<ul style="list-style-type: none"> <li>• Exists as a goal sought by the hero (the princess)</li> <li>• Marries the hero (the princess)</li> <li>• Rewards the hero/well-doer</li> <li>• Punishes the villain/wrong-doer (the father)</li> </ul>
<b>Dispatcher</b>	<b>N/A</b>	<ul style="list-style-type: none"> <li>• Sends the hero out on a mission; this role is sometimes fulfilled by the father of the princess.</li> </ul>
<b>False Hero</b>	<b>N/A</b>	<ul style="list-style-type: none"> <li>• Pretends to be the hero to swindle the reward</li> </ul>
*The functions in the brackets are common in Propp's Russian folktales; however, they are uncommon in Guo's Taiwanese folktales and were thus removed.		

**Figure 1.** Propp's and Guo's character spheres of action

The main characters that leave an impression in stories can bring back memories of the story to the audience and are elements commonly used in cultural products. Tung (2011) performed similarity association of the appearances of characters and products, contiguity association of the spatial locations of decorations and metaphor association of personalities to connect the main characters of legends to products. Yang and Ho (2013) summarised adjectives regarding attributes of the main characters such as name, talent, appearance, prediction and personality and used semantic associations to build gestalt layers, identify the best gestalt and convert gestalt layers with tangible metaphors into form components and jewellery. Hwang, Chang, and Miyazaki (2010) proposed four models for the corresponding thinking between story and product: (1) considering the situation to be presented by the product based on the time, place and conditions in which the story takes place, (2) converting the unique people and things in the story into the characteristics to be expressed, (3) converting the main problems and solutions in the story plot into problems to be solved by the product and (4) considering the value of the product with a thought-provoking moral at the end of the story. These studies established the conversion relationships between the elements of stories and products but mostly involved the extraction and application of segments; they did not use products to completely convey the core values of a story, which had been created and passed down as an important cultural asset.

### 2.3. Storytelling in Design

Erickson (1996) saw 'design as storytelling', and DeLarge (2004) also pointed out that 'good design is really just good storytelling'. Storytelling is widely used in design processes and different stories are told to achieve different purposes. In this study, we focused the core of our literature discussion on the conveyance of the story between designers and users.

To create a better user experience, many researchers used the narrative theory to summarise the forms, elements and other composition methods of stories, integrate design theories and establish guidelines on how to create user experience stories. Here, experiences are stories (Hassenzahl, 2010), because experiences are generated during the process of interactions among people and things (Desmet & Hekkert, 2007). This process consists of a series of events; therefore, their use can be likened to a narrative (Tsao & Chen, 2017). Peng and Matterns (2016) and Quesenbery and Brooks (2010) used story structures to organise story components such as characters, settings and plots into the basic structural framework of user experience design and then planned the visual, emotional or sensory textures of images that the story evokes. The framework established using the story structure can show designers how to convert fuzzy ideas into more solid content (Quesenbery & Brooks, 2010).

Kim, Srinivasan, and Zhou (2019) employed Propp's folktale morphology to build story frameworks and arrange key actors and their functions in stories to capture common models for service experiences. Madsen and Nielsen (2010), Michailidou et al. (2013) and Peng and Matterns (2016) suggested that having target customers play the main character of experience stories; detailing the problems encountered, actions taken, solutions produced and targets achieved by the main character; and giving a thorough account of the time, place and scene of events not only can facilitate the production of design ideas as well as the evaluation of the reasonableness of product ideas but can also effectively convey the value of design concepts to customers. During the process of developing story details and designing ideas, the visual presentation of design artefacts such as sketches, renderings and prototypes can promote the exchange of design concepts and the development of design ideas (Michailidou *et al.*, 2013; Parkinson & Bohemia, 2012; Peng & Matterns, 2016).

Wu et al (2019) applied storytelling to the input and output simultaneously. As an input, the story structure is used to guide interviewees to describe their feelings about the interview topic. As an output, storytelling brainstorming is used to divide and reorganise the collected information. Hassenzahl et al. (2013) demonstrated how to extract recurrent phenomena or structures from self-reported experience stories that satisfy a certain psychological need of people in order to serve as the pattern of certain experiences. This pattern must capture all of the crucial experience elements that satisfy the aforementioned need, such as emotional and cognitive content, actions, temporal structures and special conditions or rules. Experience designers can then transfer the pattern to the product usage context to tell a new story containing these experience elements and conceive how the content, functionality, presentation and interaction of the product can recreate the experience and produce products that satisfy certain experiences.

The discussion above shows that with storytelling as a design approach is using story as a design tool. Relevant studies have focused on exploring how suitable forms or types of story structures can be applied to construct a new story to meet certain purposes, rather than only passing on an existing oral tradition. Nevertheless, these studies revealed where stories fit in a design, how they can be told and presented and how they can be converted into or from user experience, thereby showing us the feasibility of transforming a folktale into an experience and then into a product.

#### ***2.4. Creation of holistic story experiences***

Unlike user experience design stories that are made to improve the normal daily experiences of users in their interactions with a product (Schifferstein and Hekkert, 2008),



experience economy and experiential marketing lay emphasis on creating special, memorable, dramatic (Pine & Gilmore, 2011) and even surreal and fantastical consumer experiences (Fiore, 2008). Schmitt (2000) believed consumption to be a type of holistic experience in which he used the concept of modules from psychology to develop the ‘strategic experiential modules (SEMs)’ for SENSE, FEEL, THINK, ACT and RELATE as a conceptual framework and fundamental marketing strategy for managing consumer experience of products. In practice, sensory experiences (SENSE) emphasise the attraction to the five senses; experience of FEEL can trigger a user's inner feelings and emotions; experience of THINK can provide rational cognitive content for a user; experience by an ACT will tell the actual experience by the body; and experience of RELATE can encourage a user's personal improvement, which will eventually link a user with the ideal self, the others or the culture. Schmitt's SEMs helped to plan ways for a subject to experience an object by conceiving the best possible methods of combining the SEMs and experience providers.

### 2.5. Summary: design strategy formulation

In conclusion of the literature review above, folktales are intangible culture that is orally passed down in the form of stories whereas experiences are stories of interactions among people and things. Design in itself is an act of storytelling; thus, in this study, we attempted to convert the oral culture in folktales into user experience using the storytelling approach. We utilised association methods to conceive how product design elements satisfy appeals for the five types of SEMs and create holistic folktale experiences for users.

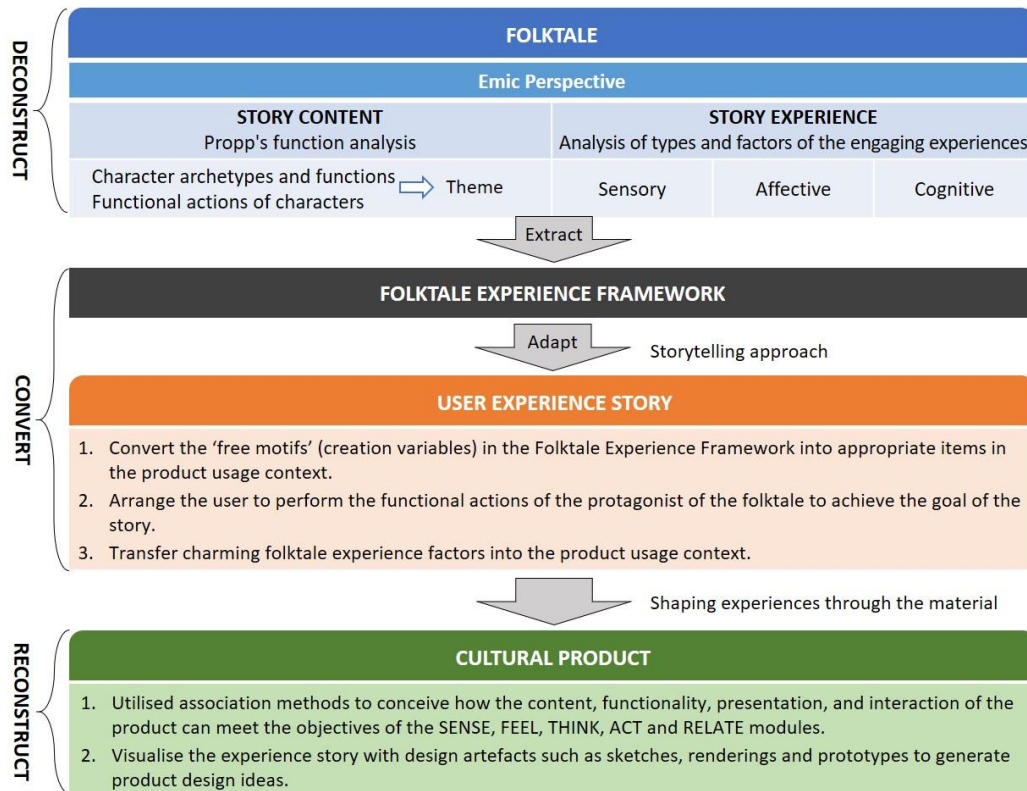


Figure 2. A conceptual framework for translating Han folktales into products

According to Propp (2010), a story comprises several types of character archetypes performing functional actions in accordance with a set thematic goal (i.e., the cultural message to be conveyed). The framework, in which these constant functional actions are arranged in a logical order, can be regarded as the pattern of story creation. Identifying the functional actions of the characters in a chosen folktale and constructing the basic framework of the story may facilitate the conversion of replaceable characters and scenes into the persona and scenario of a product's experience story while continuing the core spirit of the folktale, which will then induce the development of an appropriate cultural product. The important theoretical concepts and their relationships are shown in Fig. 2.

### **3. Deconstruction and analysis of the folktale**

#### ***3.1. Folktale sampling and element extraction***

Comaroff and Comaroff (2009) conceived culture as a guise claimed by those who would assert a collective subjectivity by objectifying it for the market. This suggests that culture commodification should be viewed from an emic perspective (Cole, 2007), which considers the 'ethnic option' that an ethnic group constructs in the promotion of their ethnic image to tourists (Wood, 1997). Han folktales are nursery tales orally passed down from parent to child; therefore, we interviewed Han parents and children to extract the cultural elements of a folktale from an emic perspective.

As oral traditions are passed down, changes in time and space as well as intentional or unintentional changes made by storytellers can alter parts of the content, which is an important characteristic of folktales (Chang, 2000). The parts that can be passed down in oral traditions are generally the most characteristic central motifs of this 'type' of folktales (Thompson, 1946). Thus, we did not consider a certain textual record of the story as the traditional standard for establishing story experience frameworks. Rather, we attempted to analyse the story content orally retold by Han parents to children as well as their storytelling experiences in order to extract the elements that could be perceived, recognised, remembered, loved and passed on in a Han folktale. To give this study a focus and enable the interviewees to successfully retell a folktale with a long history, we chose the *Firefly Folktale Picture Book: Selling Fragrant Farts* published by Yuan-Liou as our interview stimulus. This book was selected from a list of excellent extracurricular reading materials for elementary and middle school students recommended by the Ministry of Culture. Selection was conducted via discussion with a group of three creators of children's literature with elementary teaching qualifications who considered the levelling of the story content for school-aged children today and with three product designers who assessed its potential to be developed into products.

At the suggestion of the three experts in children's literature regarding the difficulty of the selected book, we decided on the age of the children to be interviewed: in the end, we interviewed four fourth-graders (three boys and one girl) and their parents (three mothers and one father). We conducted semi-structured interviews to collect data on the folktale-reading experiences of the interviewees. As the interviewees included underage children, the interview outline was first approved by elementary school teachers and the parents of the interviewed children. During the interviews, the interviewees were asked to read the book, retell the story from memory and then share their personal favourite parts and experiences regarding the story. The interviews took approximately 40 to 50 minutes.

The interview recordings were transcribed and then coded and analysed word by word and sentence by sentence using WinMAX 98 pro. A single sentence may have involved multiple code items rather than a single code item at a time. The code was established using a semi-pre-written approach with a top-down coding structure. We generated the code based on Propp's (2010) and Guo's (2010) character spheres of action and the interviewees' descriptions of the personalities and actions of the characters in *Selling Fragrant Farts* and placed them in the corresponding character archetype and function categories. We observed how they pieced them together to lay out the theme perceived by the interviewees. In addition, we referred the Schmitt's classification and description of experiences to categorise the story experiences shared by the interviewees. Finally, based on the coding analysis results summary, we constructed our story experience framework for *Selling Fragrant Farts*.

### 3.2. Story outline of *Selling Fragrant Farts*

According to the story types established by Ting (2008), *Firefly Folktale Picture Book: Selling Fragrant Farts* is a composite of favourable transactions, a farming dog, and selling fragrant farts. Figure 3 presents an outline of the story.

Type	Outline
<b>1165 Favourable Transaction</b>	The brothers separated into two households. The elder brother took all of their family's valuable assets, leaving the younger brother with only a horsefly.
	The horsefly was eaten by a chicken and the chicken's owner gave the chicken to the younger brother as compensation.
	The chicken was eaten by a dog and the dog's owner gave the dog to the younger brother as compensation.
<b>503E Farming Dog</b>	The dog helped the younger brother farm, winning the younger brother a picul of goods in a bet.
	The elder brother borrowed the dog from the younger brother. The dog was not willing to farm for the elder brother, who then lost a bet as a result and beat the dog to death.
	Bamboo grew on the dog's grave. When the younger brother shook the bamboo, a lot of gold fell from the bamboo. When the elder brother shook the bamboo, many bugs fell from the bamboo. The elder brother therefore cut down the bamboo.
<b>503M Selling Fragrant Farts</b>	The younger brother used the cut bamboo as firewood to cook a pot of beans. After eating the beans, he kept making fragrant farts.
	The younger brother began selling the fragrant farts. They relieved the county magistrate of his headaches, who then handsomely rewarded the younger brother.
	The elder brother did the same but burned the beans and made extremely smelly farts. The county magistrate therefore gave him a flogging.

**Figure 3.** Story outline of *Selling Fragrant Farts*

### 3.3. Folktale experience framework

All eight interviewees, including the four parents and the four children, were able to successfully restate the primary content of *Selling Fragrant Farts*. Based on the content of the story restated by the interviewees and the opinions that they shared about the story, we constructed the framework in Figure 4. The story structure in the upper half of this framework was grounded on the storytelling morphology established by Propp (2010) as well as the 18 functions and 5 characters identified by Guo (2010) from Taiwanese folktales. The headings (white text in grey-filled boxes) are the constant functions of the



basic structures of Han folktales and the black text underneath are the motifs executed in *Selling Fragrant Farts*. Note that the function of the county magistrate in *Selling Fragrant Farts* is similar to that of the ‘princess and her father (king)’ defined by Guo (2010) and Propp (2010). In Han folktales, however, the character fulfilling this function may not be a princess or a king. We therefore renamed this character archetype the ‘judge’ which is more in line with the fact that this type of character uses their authority to provide justice, reward the good and punish the bad at the end of the story, promote the status of the well-doer and cause the wrong-doer to fail. The lower half of this framework shows the experience factors and types extracted from the story experiences shared by the interviewees regarding *Selling Fragrant Farts*. The charm factor of *Selling Fragrant Farts* was what the interviewees considered to be the most appealing to them.

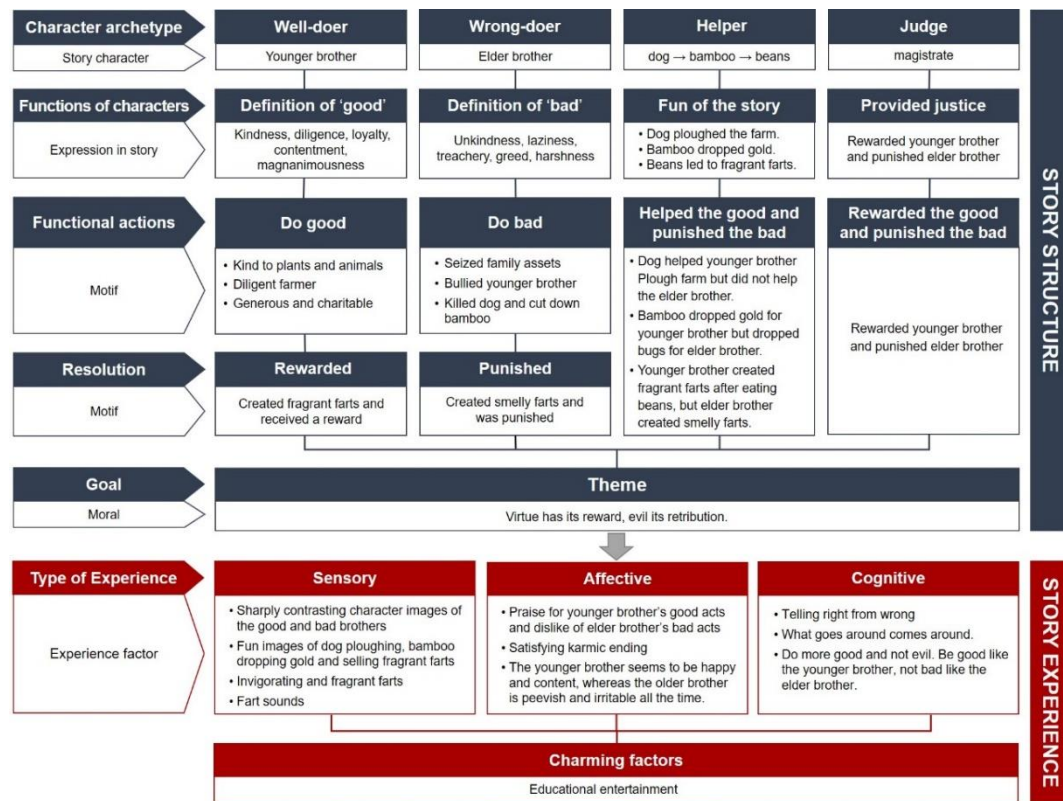


Figure 4. Folktale experience framework of *Selling Fragrant Farts*

## 4. Application of folktale experience framework to product design

### 4.1. Design method and process

In the design stage, we adopted experimental methods. Two postgraduates majoring in product design used the folktale experience framework derived in the previous stage to convert *Selling Fragrant Farts* into a product experience story and then drafted a product design. The detailed methods and process were as follows:

#### (1) Rewrite an experience story

With the upper half of the story structure in Figure 4 as the template of the experience story and based on the story experiences of the interviewees regarding the lower half, we selected the more appealing story motifs, converted them into the product

usage context and rewrote them into a user experience story with a goal and function matching that of *Selling Fragrant Farts*. The stakeholders in the product usage context can be assigned to play functional archetype characters and perform actions matching those of their functions so that they can experience the journeys of the characters. Not all character prototypes must be used. Generally speaking, the user plays the main character whereas the new product to be designed is the helper that helps the main character solve a problem. This would be more in line with the user-centred design principle and highlight the necessity of the new product.

*(2) Apply SEMs to convert folktale experience into a form that products can provide*

The objective of the SENSE module is to manifest the story characteristics that appeal to the five senses of the interviewees in the product and thereby visualise the story. The objective of the THINK module is to inspire users to think and perceive the moral of the folktale. The ACT module plans the actual actions of a user while experiencing the main character's journey during interactions with the product. The main purpose of the FEEL module is to convert the factors that trigger the emotions of the interviewees into the emotional content of the product experience. The objective of the RELATE module is to urge a user to improve themselves in accordance with the good values of the folktale. The constituent elements of the product and their combinations are all designed to meet the aforementioned objectives of the five SEMs.

*(3) Visually present the story to ideate the product*

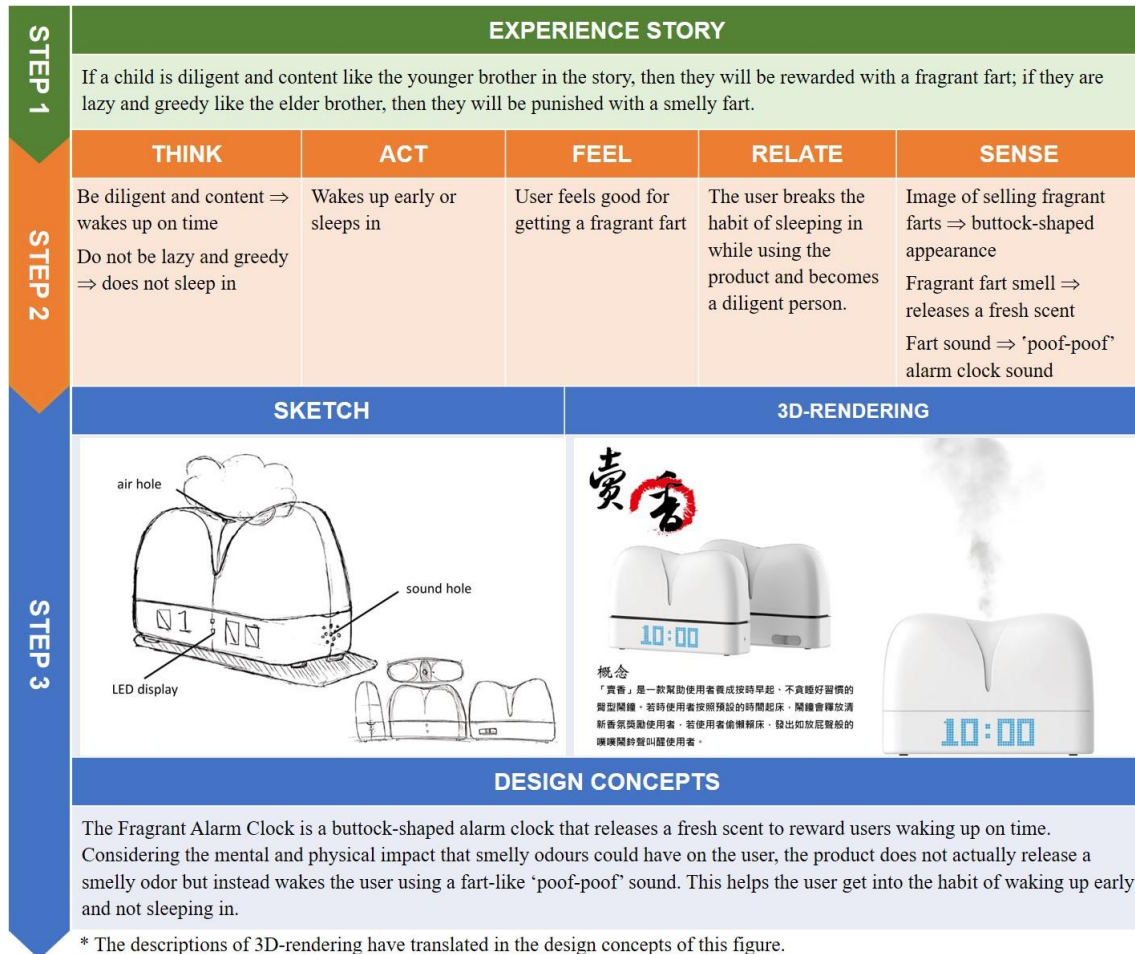
The third step is to visualise the experience story in a sketch to generate product design ideas. The most complete concept sketch is then further refined using 3D-rendering to realise the creative idea.

#### **4.2. Explanation of design creation examples**

Using the framework, method and process proposed in this study, the two participating designers successfully produced designs. The two creations are respectively explained in Figure 5 and 6.

#### **4.3. Testing and comparing design methods**

To confirm that the proposed design method and process can help designers to develop products that enable users to experience the cultural essence of folktales, the researchers conducted a simple test during the design implementation stage: before showing the two participating designers the folktales experience framework and explaining the conversion method to them, the researchers had the designers read *Selling Fragrant Farts* themselves and initially create a sketch of a cultural product based on their own interpretations of the story. The results are shown in Figure 7 and 8. Figure 7 presents a fragrant cup lid based on the motif of the younger brother selling fragrant farts. Users can apply any preferred essential oils to the hole in the lid and the heat from any hot drinks in the cup will cause the scent of the essential oils to disperse. Figure 8 shows a design of a wearable device linked to a smoke detector based on the cautionary lesson of the elder brother burning the beans and producing smelly farts. If the smoke detector, recommended to be installed in the kitchen, detects smoke, the wearable device will also release a smelly odour to remind the user to turn off the stove.

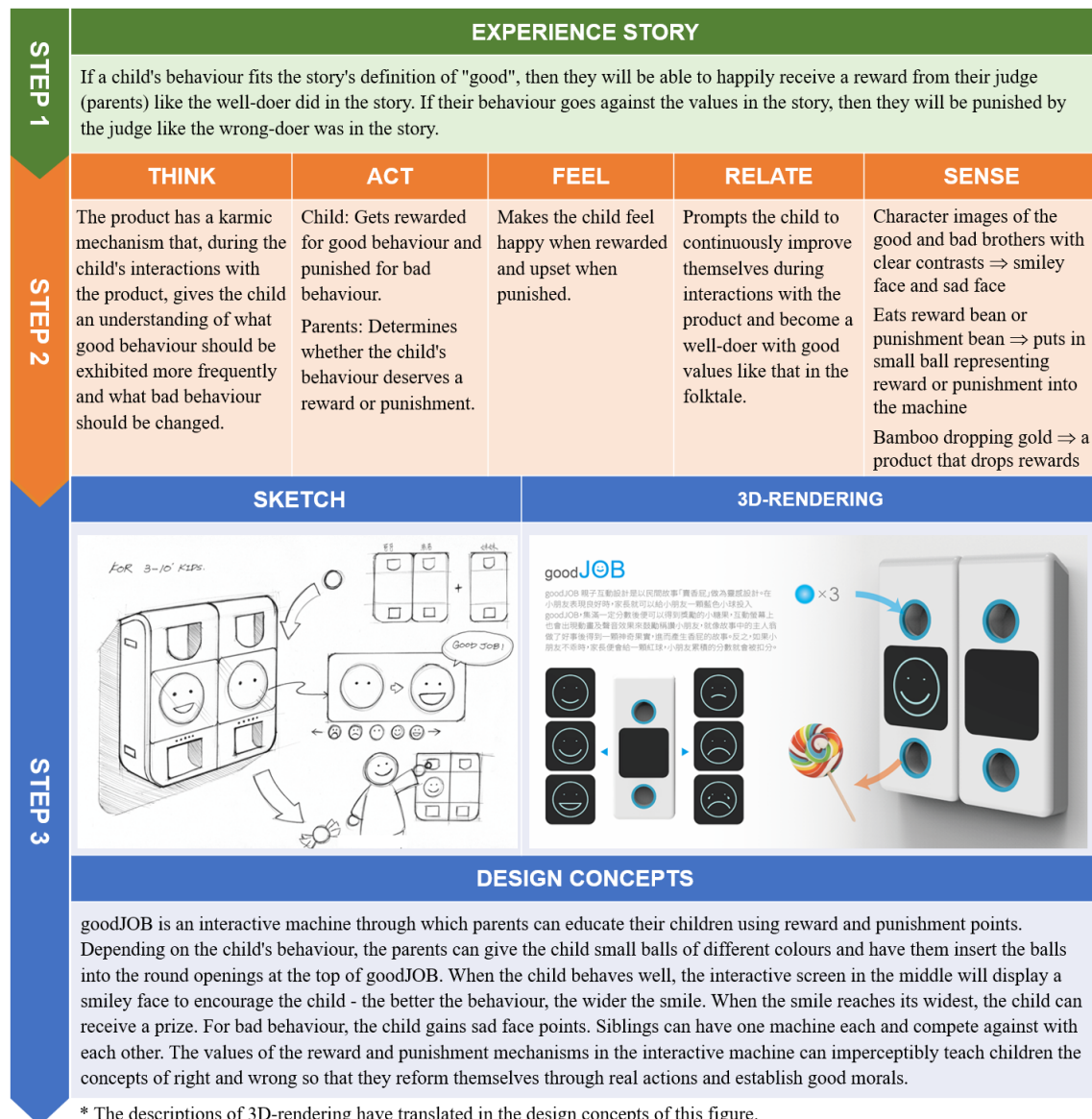


**Figure 5.** Explanation of design conversion for the Fragrant Alarm Clock

Three experts, who had been involved in research, teaching and practice related to cultural product design for more than ten years, were asked to select two designs from the four sketches that better conveyed the cultural meaning of *Selling Fragrant Farts*, without knowing the designer or the design method used. They unanimously agreed that goodJOB and Fragrant Alarm Clock, which adopted this design approach of this study, better conveyed the moral of 'virtue has its reward, evil its retribution', while the other two pieces (fragrant cup lid and smoke detector) only conveyed part of the story.

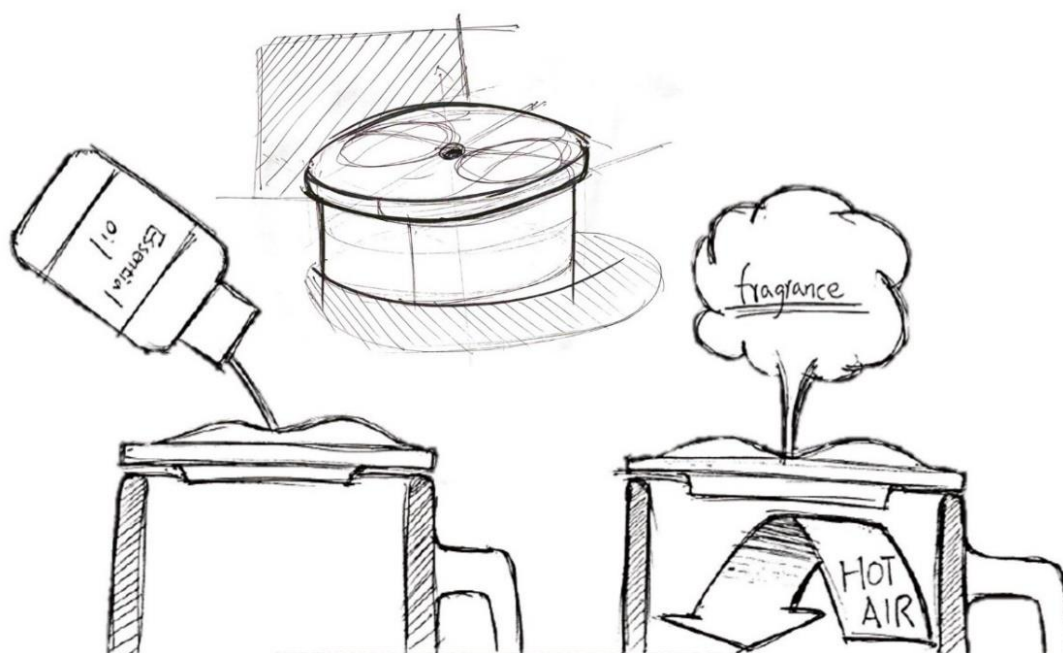
When the designers created their own designs, they both focused on the most obvious elements of the story, which were fragrance and odour, to achieve cultural identification. In contrast, both of the designs created using the proposed conversion method made use of the karmic logic of the story and attempted to make users understand that karma is the core value of *Selling Fragrant Farts*, thereby achieving the effect of conveying the cultural message contained in the Han folktale. This shows that the design method using experience as an intermediary for the deconstruction, refinement and translation of folktales as well as their reconstruction into new products enabled the participating designers to upgrade their design work to the creation of more comprehensive and story-like cultural experiences for product users, rather than from the mere extraction and application of fragmentary cultural characteristics. This change

enabled the designed products to pass down the core values of the folktale and can substantially benefit the preservation and promotion of traditional culture.

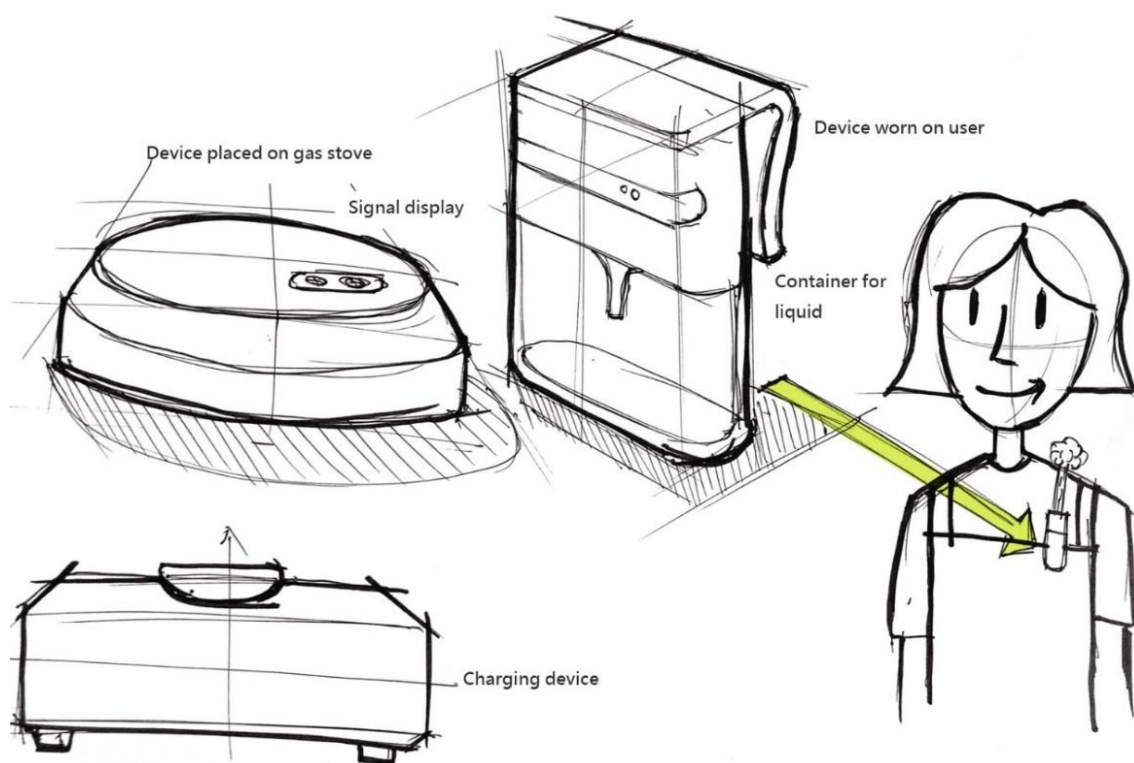


**Figure 6.** Explanation of design conversion for goodJOB interactive game toy





**Figure 7.** Sketch of fragrant cup lid



**Figure 8.** Sketch of wearable device linked to a smoke detector

## 5. Discussion

Design knowledge can be acquired via the execution and reflection of design implementation (Cross, 2001). During the deduction process of this design case and reflection on the results of verifying and comparing design methods, research experience and empirical knowledge can serve as answers to design inquiry. Below, we conduct further discussion on the appropriateness of the adopted design methods and processes based on the actual execution and test results of our design strategies.

### ***1. Experience as the conversion medium between folktales and cultural products***

The designers first transformed the folktale into an interactive experience between user and product before designing the product by ‘shaping experiences through the material’ (Hassenzahl *et al.*, 2013). Through experience planning, the focus of the design is shifted from the extraction and application of story characteristic motifs to the summarising and paraphrasing of story content in order to create a more holistic and story-like cultural experience for product users. During the process of culture commodification, designers often focus on the use of cultural characteristics; however, the culture becomes segmented and the essence of the cultural traditions is lost, turning the new product into a mere decoration that is criticised. In the initial designs created by the designers themselves (Figure 7 and Figure 8), it was recognisable that the functions of releasing fragrant smells or odours originated from characteristic motifs of *Selling Fragrant Farts*. However, the reason and meaning of the release of the fragrant smells or odours all differed from those in the original story. As such, they were simply ‘empty signifiers’ without a signified (Laclau, 2022). In product value, the symbolic meaning is greater than the cultural connotations, which would replace what consumers should learn about the culture. This is a common issue in cultural product designs that focus on cultural identification. We therefore advocate that the focus of cultural product design should shift from marks of cultural identification to the creation of cultural experiences and that the primary goal of cultural product design should be to give users a holistic understanding and experience of the culture. By personally experiencing the journeys of folktale characters, users may form an understanding of the folktale that is far greater than that gained from identifying marks on the sensory level.

Using experience as a conversion medium between folktales and products allows designers to use folktale methods (grammatical structure) to achieve the purpose of folktales (conveying cultural messages). Since the story structure is to organise the actions of the characters in a logical order to convey messages, through the process of transforming the folktale structure into user experience, and then designing products based on the experience, the designed product can be contextualized and meaningful. In this way, the designer is freed from the extraction and marking of identification symbols and has more freedom in the design.

In addition, the conversion through experience as a medium also gives designers the opportunity to integrate positive and meaningful experience factors into the product usage context, prompting them to design products that give users a positive cultural experience. Doing so will help promote the culture. The results of the design case of this study verified the feasibility of the approach of extracting and transferring positive experience elements to another context proposed by Hassenzahl *et al.* (2013).

***Functional analysis to construct conversion template between folktales and user experience***

Propp (2010) generalised Russian folktales into a structure organised by characters performing functional actions. These have been applied to user experience design, which is similar to telling stories in that the journey of the role/user to achieve a certain objective is planned. We adopted Propp's function analysis method to construct the framework of Han folktales to provide designers with a template that can convert the 'variable' into appropriate items in the product usage context from the basic structures comprising Han folktale 'constants', thereby recontextualising folktales with historical and cultural meaning.

In general, people pay more attention to the content of folktales. Propp's storytelling morphology helps us to understand why the contents of a story are specifically arranged and ordered. This study utilised Propp's function analysis method to construct story experience frameworks that can guide participating designers out of the text to see the narrative rules governing the organisation of the folktale and pinpointing the central idea to be conveyed as well as what forms of representation can be innovated. The two products designed using this framework do not simply highlight a characteristic element of *Selling Fragrant Farts* but make use of the logic of rewarding the good and punishing the bad to convey to users the cultural messages hidden by Han people in their folktales. In this way, the intangible culture carried in the Han folktale could be considered conveyed.

Although the preliminary tests in this study only provide a demonstration with a single folktale, the 'functions' proposed by Propp are stable, invariable constants that are limited in number in folktales and have a certain logical and organisational order. The story structure established based on the order of the functions is the basic structure shared by such narratives and can therefore be inferred and applied to other folktales.

***SEMs can enrich product user experiences of Han folktales***

The SEMs developed by Schmitt (2000) can assist designers in enriching user experiences of folktale themes and contents as well as reinforce their impressions of the source folktale. Each SEM has its own objectives, internal structures and principles, which can help researchers to identify the experiences of the most appealing motifs in story experiences shared by parents and children as well as prompt designers to consider the means of transforming these experience factors into the product usage context from multiple aspects. Through the design of the appearance, functions, interactions and contents of the product, they can achieve the objectives of the SENSE, FEEL, THINK, ACT and RELATE modules at the same time and provide users with holistic experiences of the folktale as they interact with the product. In this way, the interpretations of the participating designers with regard to *Selling Fragrant Farts* are not simply a decontextualising appropriation of fragrance and smelly odours to the new product.

***Moral thinking of applying culture to product design***

Designers must respect the subjectivity of the source culture and not treat it as an object that can be utilised and modified at will simply for the sake of an innovative design. Cultural products are not just products designed using cultural elements; they must have unique attributes that are carriers of identity, values and meaning (UNESCO, 2005) and be able to manifest the subjectivity of cultural groups. With intangible cultural heritage at risk of being lost in modern times, the goal of cultural product is to develop a form of

presentation in line with the times to fulfil their purpose of passing down culture as well as preserve and promote the core values of the culture. This is because the importance of intangible culture lies not in the cultural manifestation itself but in the rich knowledge and skills passed down from generation to generation. Oral traditions are a means of passing down intangible culture. Cultural products developed using oral traditions should be manifestations of oral traditions that can convey intangible culture to users.

UNESCO's Convention for the Safeguarding of the Intangible Cultural Heritage has remarked that intangible cultural heritage should be considered 'living heritage' with traditional values (UNESCO, 2003). As generations and the environment change and are constantly recreated, it is important that they can provide social communities with a sense of identity and continuity (UNESCO, 2005). Designers should therefore understand a culture from an emic perspective and respect how insiders interpret their own culture rather than determine what can be replaced or changed in a cultural product from mainstream market perspectives, thereby avoiding bias or avoiding copying the stereotype of 'primitive others' and offending culture bearers. Based on this premise, applying design to culture commodification work benefits, rather than exploits, the culture itself and its insiders.

## 6. Conclusion

To address the issue of designers adopting a superficial view when commodifying culture, this study proposed a design approach using products to tell folktales and help designers to convey the intangible culture embedded within folktales to users. Based on the fact that experiences and folktales are both a type of story, this study employed the storytelling morphology developed by Propp (2010) to organise the functions of the primary characters in a Han folktale to achieve the objective of the narrative and provide designers with a user experience story template in which users can experience the journeys of the folktale characters. The proposed approach also guides designers on how to use the SEMs developed by Schmitt (2000) to extract folktale experience factors from Han parents and children from an emic perspective and transform the folktales into a form of product that can provide these experience factors, thereby creating a holistic cultural experience of the folktale for the users. This approach to constructing innovative designs solves the problem of designers decontextualising cultural symbols and enables an orally passed-down story with historical and cultural value to be incorporated into user experience design that was traditionally focused on instrumental benefits. Faced with the serious issue of safeguarding intangible cultural heritages, we replaced past design-oriented thinking, in which stories were made or used for the sake of the design, with culture-oriented thinking, in which designs are created to pass down and promote oral traditions. This was achieved by reflecting on and improving the design method.

The implementation and achievements of the designs in this study demonstrate the feasibility of the proposed design approach in passing down intangible culture. We believe that this design approach and the examples evaluated have reference value for future studies and practices in cultural product design. We suggest that future research could examine whether the design approach proposed in this paper can enhance the effectiveness of nonverbal design artefacts in cultural transmission from the user reception side. Another direction could include examining the feasibility of expanding on the storytelling approach to convert different types of cultural narratives into experiences for cultural product development.



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